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SMART & BIGGAR
P.O. BOX 2999, STATION D
900-55 METCALFE STREET
OTTAWA, ON K1P5Y6
CANADA

EXAMINER

EKONG, EMEM

ART UNIT PAPER NUMBER

2617

DATE MAILED: 10/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/682,092	Applicant(s) STEER ET AL.	
	Examiner EMEM EKONG	Art Unit 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) 1-9 and 32-38 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10/10/2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) ☐ Notice of References Cited (PTO-892) | 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) ☐ Notice of Informal Patent Application (PTO-152) |
| 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) ☐ Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 07/19/2006 have been considered but are moot in view of the new ground(s) of rejection. The examiner thanks applicant for clarification of claims.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

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not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 10, 11, 13, 16, and 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Deutsch Publication No. DE 19653443 A1 to Gerhauser et al. (Gerhauser) in view of International Pub. No. WO 95/13668 to MARK PENNOCK et al. (Pennock).

Regarding claim 10, Gerhauser discloses a wireless network node for providing transit of data with other wireless network nodes in a wireless network (see figure 1, page 2 line 21-page 3 line 7, page 3 lines 23-24, and page 5 lines 12-17, i.e. network node with send-receive device, base station),

the wireless network node comprising: at least one transit antenna to provide data transmission between at least one other wireless network node in the wireless network and the wireless network node; wherein the at least one transit antenna are available to establish one or more transit links; (see figures 1 and 2, page 3 lines 4-6, 16-19, and page 7 lines 1-4);

an auxiliary transit antenna port to which an auxiliary transit antenna can be coupled (page 3 lines 8-9, 20-21, page 5 lines 23-24, switching device for connecting the second antenna)

However, Gerhauser fails to disclose an antenna detector adapted to detect whether or not an auxiliary transit antenna is coupled to the auxiliary transit antenna port; wherein upon detection that the auxiliary transit antenna is not coupled to the

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auxiliary transit antenna port, the wireless network node does not use the auxiliary transit antenna port for communications; wherein upon detection that the auxiliary transit antenna is couple to the auxiliary transit antenna port, an additional transit link can be established using the auxiliary transit antenna port and the auxiliary transit antenna simultaneously with the use of the one or more transit links provided by the at least one transit antenna.

Pennock discloses an antenna detector adapted to detect whether or not an auxiliary antenna is coupled to the auxiliary antenna port (page 3 lines 22 –29, an antenna detector circuit coupled to the second antenna transmission line, which detects the presence of the second antenna in the radiotelephone); wherein upon detection that the auxiliary antenna is not coupled to the auxiliary antenna port, the wireless network node does not use the auxiliary antenna port for communications (page 4 lines 1-4, and 22-30); wherein upon detection that the auxiliary antenna is couple to the auxiliary antenna port, an additional link can be established using the auxiliary antenna port and the auxiliary antenna simultaneously with the use of the one or more links provided by the at least one antenna (page 4 lines 17-19, the first and second antenna provide both transmission and reception).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Gerhauser, and have an antenna detector adapted to detect whether or not an auxiliary antenna is coupled to the auxiliary antenna port; wherein upon detection that the auxiliary antenna is not coupled to the auxiliary antenna port, the wireless network node does not use the auxiliary

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antenna port for communications; wherein upon detection that the auxiliary antenna is couple to the auxiliary antenna port, an additional link can be established using the auxiliary antenna port and the auxiliary antenna simultaneously with the use of the one or more links provided by the at least one antenna as disclosed by Pennock et al. for the purpose of detecting the presence of an auxiliary antenna for the purpose of generating a control signal in response.

Regarding claim 11, the combination of Gerhauser, and Pennock discloses the wireless network node of claim 10 wherein the antenna detector is adapted to automatically detect whether or not an auxiliary transit antenna (second antenna) is coupled to the auxiliary transit antenna port (second antenna connector) (page 3 lines 22- 29, and page 6 lines 24-28).

Regarding claim 13, the combination of Gerhauser, and Pennock discloses the wireless network node of claim 11, wherein the antenna detector measures a signal received through the auxiliary transit antenna port for use in a determination of whether or not an auxiliary transit antenna (second antenna) is or is not coupled to the auxiliary transit antenna port (second antenna connector) (see figures 3 and 4, pages 6 line 22- page 7 line 17).

Regarding claim 16, the combination of Gerhauser, and Pennock discloses the wireless network node of claim 10 in combination with an auxiliary transit antenna (second antenna) coupled to the auxiliary transit antenna port (page 4 lines 4-18).

6. Claims 12, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gerhauser, in view of Pennock et al. and further in view of International Pub. No. WO 01/52357 A1 to M J C KAMPHUIS (KAMPHUIS et al.)

Regarding claim 12, the combination of Gerhauser, and Pennock discloses the wireless network node of claim 11 above, wherein the antenna detector measures a signal for use in a determination of whether or not an auxiliary transit antenna is or is not coupled to the auxiliary transit antenna port.

However, the combination fails to disclose the antenna detector measures a standing wave ratio (SWR) for use in a determination of whether or not an auxiliary transit antenna is or is not coupled to the auxiliary transit antenna port.

In a similar field of endeavor, Kamphuis et al. discloses antenna disconnection detector circuit, e.g. for portable transceiver, has tuned circuit and detection circuit to sense abnormal voltage level indicative of absence of antenna. Kamphuis et al. further discloses the antenna detector measures a standing wave ratio (SWR) for use in a determination of whether or not an auxiliary transit antenna is or is not coupled to the auxiliary transit antenna port (see figures 3a and 3b, page 6 line 6- page 7 line 10).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination with the teachings of Kamphuis et al. for

the purpose of sensing electromagnetic field signal in the presence or absence of an antenna.

Regarding claim 15, the combination of Gerhauser, and Pennock discloses the wireless network node of claim 11, and an interface circuit (i.e. first and second diode) (see figures 3 and 4, page 7 lines 3-17).

However, the combination fails to disclose wherein the antenna detector comprises a coupler connected in series with the auxiliary transit antenna port, forward and reverse power detectors connected to the coupler, and a Standing Wave Ratio (SWR) detector and interface circuit connected to the forward and reverse power detectors, wherein in operation power from the auxiliary antenna port is coupled through the coupler and measured by both the forward and reverse power detectors, and the SWR detector and interface circuit compare outputs of the forward and reverse power detectors in order to determine whether or not an auxiliary transit antenna is coupled to the auxiliary antenna port.

Kamphuis et al. discloses wherein the antenna detector comprises a coupler connected in series with the auxiliary transit antenna port, forward and reverse power detectors connected to the coupler, and a Standing Wave Ratio (SWR) detector and interface circuit connected to the forward and reverse power detectors,

wherein in operation power from the auxiliary transit antenna port is coupled through the coupler and measured by both the forward and reverse power detectors, and the SWR detector and interface circuit compare outputs of the forward and reverse

power detectors in order to determine whether or not an auxiliary transit antenna is coupled to the auxiliary transit antenna port (page 6 line 4-page 7 line 10).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination with the teachings of Kamphuis et al. for the purpose of detecting antenna presence.

7. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gerhauser in view of Pennock et al.

The combination of Gerhauser, and Pennock discloses the wireless network node of claim 11, wherein the antenna detector further comprising an interface circuit, the interface circuit (i.e. first and second diode) outputting a signal that is indicative of the presence or absence of an transit auxiliary antenna in the auxiliary transit antenna port (see figures 3 and 4, page 7 lines 3-17).

However, the combination fails to disclose wherein when an auxiliary antenna is inserted into the auxiliary transit antenna port the metal contact is bridged to a ground contact of the auxiliary transit antenna port,

the antenna detector coupled to an interface circuit, and the antenna detector comprising a metal contact that rests adjacent to the auxiliary transit antenna port when an auxiliary transit antenna is not inserted into the auxiliary transit antenna port.

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to make the antenna detector to comprise a metal contact that rests adjacent to the auxiliary transit antenna port when an auxiliary transit antenna is

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not inserted into the auxiliary transit antenna port, and when an auxiliary transit antenna is inserted into the auxiliary transit antenna port the metal contact is bridged to a ground contact of the auxiliary transit antenna port. Applicant has not disclosed that the antenna detector comprising a metal contact provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with the use of a bias circuit coupled to the second antenna's transmission line to provide bias for the diodes because upon insertion of the coil cord connector of the second antenna into the external antenna connector, the center conductor is coupled to the transmission line. The transmission line provides a DC path to ground for the antenna detector circuit. In response, the transistor in the antenna detector circuit generates a bias current for the diodes in the smart switch.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination to obtain the invention as specified in claim.

8. Claims 17-25, are rejected under 35 U.S.C. 103(a) as being unpatentable over Pennock et al. in view of International Pub. No. WO 03/017591 A1 to Daniel F Difonzo (Difonzo et al.).

Regarding claims 17, and 18, the combination of Gerhauser, and Pennock discloses the wireless network node of claim 16.

However, the combination fails to specifically disclose further comprising at least one access antenna to permit data transmission both to and from wireless mobile terminals located proximate the wireless network node (claim 17),

further comprising: a transit link radio coupled to the at least one transit antenna and the auxiliary transit antenna for providing data communication between the wireless network node and other wireless network nodes; an access link radio coupled to the at least one access antenna for providing communication between the wireless network node and mobile devices proximate the wireless network node; and a controller unit coupled to both the transit link radio and the access link radio for coupling data transmissions from a mobile device proximate the wireless network node to other wireless network nodes (claim 18).

Difonzo et al. discloses the wireless network node comprising at least one access antenna to permit data transmission both to and from wireless mobile terminals located proximate the wireless network node (reads on claim 17) (see figures 1 and 2, abstract, page 5 lines 18-26), further comprising: a transit link radio coupled to the at least one transit antenna and the auxiliary transit antenna for providing data communication between the wireless network node and other wireless network nodes; an access link radio coupled to the at least one access antenna for providing communication between the wireless network node and mobile devices proximate the wireless network node; and a controller unit coupled to both the transit link radio and the access link radio for coupling data transmissions from a mobile device proximate the

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wireless network node to other wireless network nodes (reads on claim 18) (page 4 lines 10-30, page 5 lines 18-28).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination with the teachings of Difonzo et al for the purpose of enhancing communication between nodes.

Regarding claim 19, the combination of Gerhauser, and Pennock discloses the wireless network node of claim 16, however, the combination fails to disclose wherein the auxiliary transit antenna is aimed so signals therefrom are transmitted to another specific wireless network node.

Difonzo et al. discloses wherein the auxiliary transit antenna is aimed so signals therefrom are transmitted to another specific wireless network node (page 6 line 3-26).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination with Difonzo et al for the purpose of establishing communication link with a specific wireless node.

Regarding claim 20, the combination of Gerhauser, Pennock, and Difonzo et al. discloses wherein the another specific wireless network node is located at a distance from the wireless network node greater than a distance permitting reliable transmission of data using the at least one transit antenna (Difonzo et al., see figure 3, page 6 lines 5-20).

Regarding claims 21, 24, and 25, the combination of Gerhauser, and Pennock discloses the wireless network node of claim 16. However, the combination fails to disclose wherein the auxiliary transit antenna has a gain greater than that of the at least one transit antenna (claim 21); and the auxiliary transit antenna provides the use of a substantially higher data rate than that provided by the at least one transit antenna (claim 24);

the auxiliary transit antenna provides substantially better interference suppression than that provides by the at least one transit antenna (claim 25).

Difonzo et al. discloses wherein the auxiliary transit antenna has a gain greater than that of the at least one transit antenna(reads on claim 21) (page 6 line 3-5, page 8 lines 1-7);

and the auxiliary transit antenna provides the use of a substantially higher data rate than that provided by the at least one transit antenna (reads on claim 24) (page 6 lines 16-20);

the auxiliary transit antenna provides substantially better interference suppression than that provides by the at least one transit antenna (reads on claim 25) (page 6 lines 14-16).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination with the teachings of Difonzo et al. for the purpose of improving quality of radio link between users, and having a high throughput.

Regarding claims 22 and 23, the combination of Gerhauser, and Pennock discloses the wireless network node of claim 16.

However, the combination fails to disclose the wireless network node further comprising a directional-mount connected between the auxiliary transit antenna and auxiliary transit antenna port of the wireless network node (claim 22);

the directional-mount is adjustable in order to permit an optimal alignment of the auxiliary transit antenna(claim 23).

Difonzo et al. discloses the wireless network node further comprising a directional-mount connected between the auxiliary transit antenna and auxiliary transit antenna port of the wireless network node (reads on claim 22) (page 6 lines 14-18);

the directional-mount is adjustable in order to permit an optimal alignment of the auxiliary transit antenna(reads on claim 23)(page 6 lines 24-26, and page 7 lines 10-20).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination with the teachings of Difonzo et al. for the purpose of steering the antenna for communicating with other unit in order to maintain maximum signal strength, and enhance communication between wireless network nodes.

9. Claims 26-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pennock et al. in view of U. S. Patent No. 5341375 to Buchholz et al..

Regarding claim 26, Pennock et al. discloses a method of operating a wireless network node having an auxiliary antenna port (second antenna connector) (see figure 1, page 1 lines 11-30, page 3 lines 14-21), the method comprising:

determining whether or not an auxiliary antenna is coupled to the auxiliary antenna port (page 3 lines 22 -29); and upon

determining that an auxiliary antenna is coupled to the auxiliary transit antenna port (page 4 lines 1-23).

However, Pennock et al. fails to disclose an auxiliary transit antenna, and adding the auxiliary transit antenna to a list of active antennas adapted for at least one of transmitting and receiving wireless signals so that the auxiliary transit antenna can be included or ignored as appropriate for at least one of transmitting and receiving wireless signals through the auxiliary transit antenna coupled to the auxiliary transit antenna port;

upon determining that an auxiliary transit antenna is not coupled to the auxiliary transit antenna port, removing the auxiliary transit antenna form a list of active antennas so that the auxiliary transit antenna will not be used.

Buchholz et al. discloses an auxiliary transit antenna and adding the auxiliary transit antenna to a list of active antennas adapted for at least one of transmitting and receiving wireless signals so that the auxiliary transit antenna can be included or ignored as appropriate for at least one of transmitting and receiving wireless signals through the auxiliary transit antenna coupled to the auxiliary transit antenna port; upon determining that an auxiliary transit antenna is not coupled to the auxiliary transit antenna port, removing the auxiliary transit antenna form a list of active antennas so

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that the auxiliary transit antenna will not be used (col. 3 lines 45-55, and col. 5 lines 33-50).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Pennock et al., and have the auxiliary transit antenna added to a list of active antennas adapted for at least one of transmitting and receiving wireless signals so that the auxiliary transit antenna can be included or ignored as appropriate for at least one of transmitting and receiving wireless signals through the auxiliary transit antenna coupled to the auxiliary transit antenna port; upon determining that an auxiliary transit antenna is not coupled to the auxiliary transit antenna port, removing the auxiliary transit antenna from a list of active antennas so that the auxiliary transit antenna will not be used as disclosed by Buchholz et al. for the purpose of maintaining a registration list of active antenna used in transmission.

Regarding claim 29, Pennock et al. discloses a controller (switch) for a wireless network node having an auxiliary antenna port (second antenna connector), the controller (switch) having a function of: determining whether or not an auxiliary antenna (second antenna) is coupled to the auxiliary antenna port (page 3 line 29-page 4 line 16).

However, Pennock et al. fails to disclose an auxiliary transit antenna, and upon determining that an auxiliary transit antenna is coupled to the auxiliary transit antenna port, adding the auxiliary transit antenna to a list of active antennas adapted for at least one of transmitting and receiving wireless signals so that the auxiliary transit antenna

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can be included or ignored as appropriate for at least one of transmitting and receiving wireless signals through the auxiliary transit antenna coupled to the auxiliary transit antenna port; upon determining that an auxiliary transit antenna is not coupled to the auxiliary transit antenna port, removing the auxiliary transit antenna from a list of active antennas so that the auxiliary transit antenna will not be used.

Buchholz et al. discloses an auxiliary transit antenna, and adding the auxiliary transit antenna to a list of active antennas adapted for at least one of transmitting and receiving wireless signals so that the auxiliary transit antenna can be included or ignored as appropriate for at least one of transmitting and receiving wireless signals through the auxiliary transit antenna coupled to the auxiliary transit antenna port; upon determining that an auxiliary transit antenna is not coupled to the auxiliary transit antenna port, removing the auxiliary transit antenna from a list of active antennas so that the auxiliary transit antenna will not be used (col. 3 lines 45-60, and col. 5 lines 33-50).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Pennock et al., and have the auxiliary transit antenna added to a list of active antennas adapted for at least one of transmitting and receiving wireless signals so that the auxiliary transit antenna can be included or ignored as appropriate for at least one of transmitting and receiving wireless signals through the auxiliary transit antenna coupled to the auxiliary transit antenna port; upon determining that an auxiliary transit antenna is not coupled to the auxiliary transit antenna port, removing the auxiliary transit antenna from a list of active antennas so

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that the auxiliary transit antenna will not be used as disclosed by Buchholz et al. for the purpose of maintaining a registration list of active antenna used in transmission.

Regarding claims 27 and 28, the combination of Pennock et al. and Buchholz et al. discloses the method according to claim 26, further comprising, upon determining that an auxiliary transit antenna is coupled to the auxiliary transit antenna port (page 3 lines 22-29).

However, the combination fails to disclose the method comprising upon determining that an auxiliary transit antenna is coupled to the auxiliary transit antenna port, automatically aligning a beam of the auxiliary transit antenna with another wireless network node(claim 27);

the beam of the auxiliary transit antenna is aligned such that at least one of a strongest possible signal level is received and a lowest packet error rate is achieved on a resulting link (claim 28).

Difonzo et al. discloses automatically aligning a beam of the auxiliary transit antenna with another wireless network node (reads on claim 27) (page 6 lines 3-20);

the beam of the auxiliary transit antenna is aligned such that at least one of a strongest possible signal level is received and a lowest packet error rate is achieved on a resulting link (reads on claim 28) (page 8 lines 1-7, and page 9 lines 18-22).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination with the teachings of Difonzo et al. for

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the purpose of steering the antenna for communicating with other unit in order to maintain maximum signal strength and link quality.

Regarding claims 30 and 31, the combination of Pennock et al. and Buchholz et al. discloses the controller (switch) of claim 29, further comprising a function of determining that an auxiliary transit antenna is coupled to the auxiliary transit antenna port (page 3 line 29-page 4 line 16).

However, the combination fails to disclose the controller upon determining that an auxiliary transit antenna is coupled to the auxiliary transit antenna port coordinating an automatic alignment of a beam of the auxiliary transit antenna with another wireless network node (claim 30); and the beam of the auxiliary transit antenna is aligned such that at least one of a strongest possible signal level is received and a lowest packet error rate is achieved on a resulting link (claim 31).

Difonzo et al. discloses the controller upon determining that an auxiliary transit antenna is coupled to the auxiliary transit antenna port coordinating an automatic alignment of a beam of the auxiliary transit antenna with another wireless network node (reads on claim 30) (page 6 lines 14 -20); and the beam of the auxiliary transit antenna is aligned such that at least one of a strongest possible signal level is received and a lowest packet error rate is achieved on a resulting link (reads on claim 31) (page 6 lines 14 -20, page 9 lines 18-22).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination with the teachings of Difonzo et al. for the purpose of maximizing link quality.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents are cited to further show the state of the art with respect to invention:

U.S. Pub. No. 20040029619 to Liang et al.

U.S. Pub. No. 20040087295 to Abbasi et al.

U.S. Pat. No. 6864853 B2 to Judd et al.

U.S. Pat. No. 7106271 B1 to Friday.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to EMEM EKONG whose telephone number is 571 272 8129. The examiner can normally be reached on 8-5 Mon-Fri..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester Kincaid can be reached on 571 272 7922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


EOE
10/6/06


LESTER G. KINCAID
SUPERVISORY PRIMARY EXAMINER